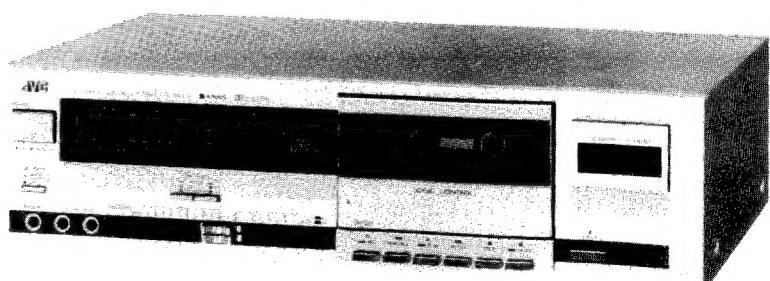


# JVC

## SERVICE MANUAL

MODEL

**KD-D20 A/B/C/E/J/U**  
STEREO CASSETTE DECK



No. 4208  
March 1982

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# Specifications

Type	: Stereo cassette deck	Output terminals	: Output level; 300 mV
Track system	: 4-track, 2-channel	Output impedance; 5 kΩ	
Tape speed	: 1-7/8 inch/sec (4.8 cm/sec)	Phones jack × 1	: Output level; 0.3 mW/8 Ω
Frequency response	: (0 dB recording) Metal tape *1; 40–11,000 Hz (± 3 dB) SA/Chrome tape *2; 40–8,000 Hz (± 3 dB) SF/Normal tape *3; 40–8,000 Hz (± 3 dB) (–20 dB recording) Metal tape *1; 30–16,000 Hz 40–15,000 Hz (± 3 dB) SA/Chrome tape *2; 30–16,000 Hz 40–15,000 Hz (± 3 dB) SF/Normal tape *3; 30–15,000 Hz 40–14,000 Hz (± 3 dB)	Power requirement	: Matching impedance; 8–1 kΩ
			: AC 240 V 50 Hz (KD-D20A) AC 120 V 60 Hz (KD-D20C/J) AC 240/220/120 V 50/60 Hz (KD-D20B/E) AC 240/220/120/100 V 50/60 Hz (KD-D20U)
Note: * 1 .....	JVC ME or Equivalent	Power consumption	: 13 W (With power on) 1.3 W (With power switch off)
* 2 .....	TDK SA or Equivalent	Dimensions	: 17-1/8" (435 mm) W
* 3 .....	MAXELL UD or Equivalent		4-9/16" (116 mm) H
S/N ratio	: 58 dB (S=1 kHz, K3=3%, N=A-weighted, Metal tape) The S/N is improved by 5 dB at 1 kHz and by 10 dB above 5 kHz with ANRS/DOLBY B NR on.	Weight	10-13/16" (275 mm) D
Wow and flutter	: 0.05% (WRMS), 0.16% (DIN 45 500)	Accessories	: 10.8 lbs (4.9 kg)
Crosstalk	: 60 dB (1 kHz)		: Pin plug cord ..... 2
Harmonic distortion	: K3; 0.5% THD; 1.0% (metal tape, 1 kHz 0 VU)		
Heads	: METAPERM head for recording/playback, 2-gap ferrite head for erasure		
Motor	: Electronic governed DC motor		
Fast forward time	: 100 sec. with C-60 cassette		
Rewind time	: 100 sec. with C-60 cassette		
Input terminals			
Mic jack × 2	: Max. sensitivity; 0.2 mV (–74 dBV) Matching impedance; 600 Ω–10 kΩ		
Input jack × 2	: Min. input level; 80 mV Input impedance; 100 kΩ		

# Features

- One-motor logic tape transport mechanism.
- ANRS/Dolby\* B NR greatly reduce tape hiss noise.
- Metal tape compatible.
- 2-color LED peak level indicator.
- TIMER START facility.
- Full auto-stop mechanism.
- Geared and oil-damped cassette door.
- Automatic input select.

\* "Dolby" and the double-D symbol are trademark of Dolby Laboratories Licensing Corporation.

# Controls and Connections

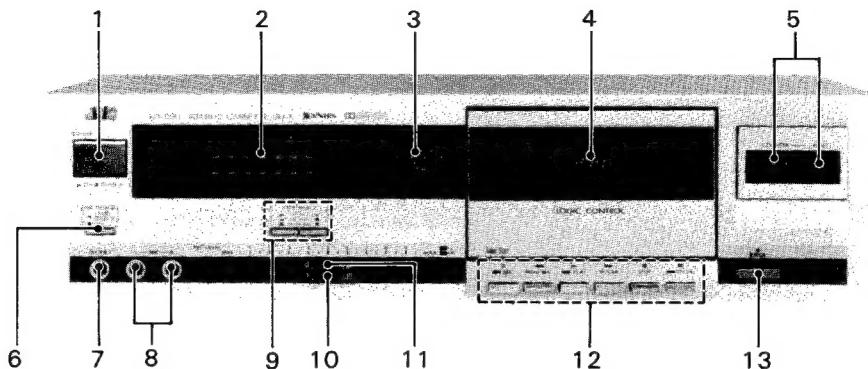


Fig. 1

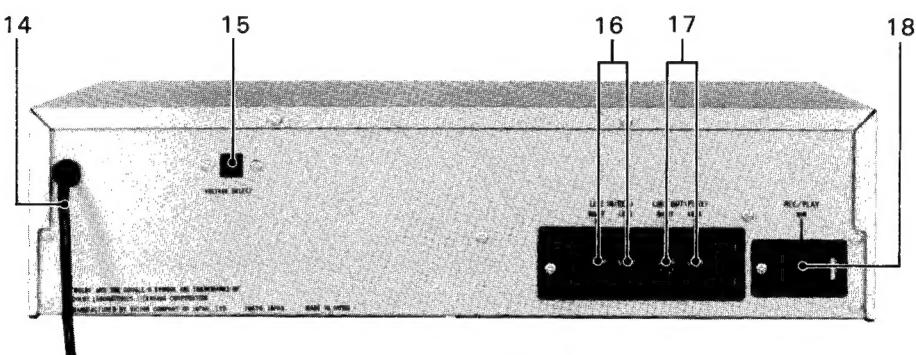


Fig. 2

- 1. POWER switch
- 2. MULTI PEAK INDICATOR
- 3. POWER indicator
- 4. Cassette holder
- 5. Tape COUNTER/counter RESET button
- 6. NR SYSTEM switch
- 7. Headphone jack [PHONES]
- 8. Microphone jacks [MIC-L, MIC-R]
- 9. TAPE SELECT switches  
[METAL, SA/CrO<sub>2</sub> & SF/NORM]
- 10. REC LEVEL control (right)
- 11. REC LEVEL control (left)
- 12. Cassette operation buttons
  - REC (Record) button
  - ◀ REW/REV (Rewind/Review) button
  - ▶ PLAY button
  - ▶ FF/CUE (Fast forward/cue) button
  - STOP button
  - PAUSE button
- 13. EJECT button
- 14. Power cord
- 15. Voltage select switch
- 16. LINE IN (REC) terminals
- 17. LINE OUT (PLAY) terminals
- 18. REC/PLAY (DIN) socket

# Main Parts Location

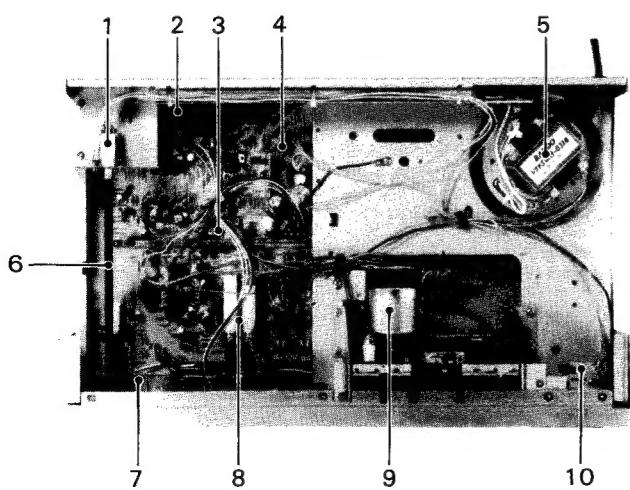


Fig. 3

# Removal of Main Parts

Observe care in handling the parts since the parts are small in size and the distance between them are short due to a deck design aimed mainly at compactness and high performance.

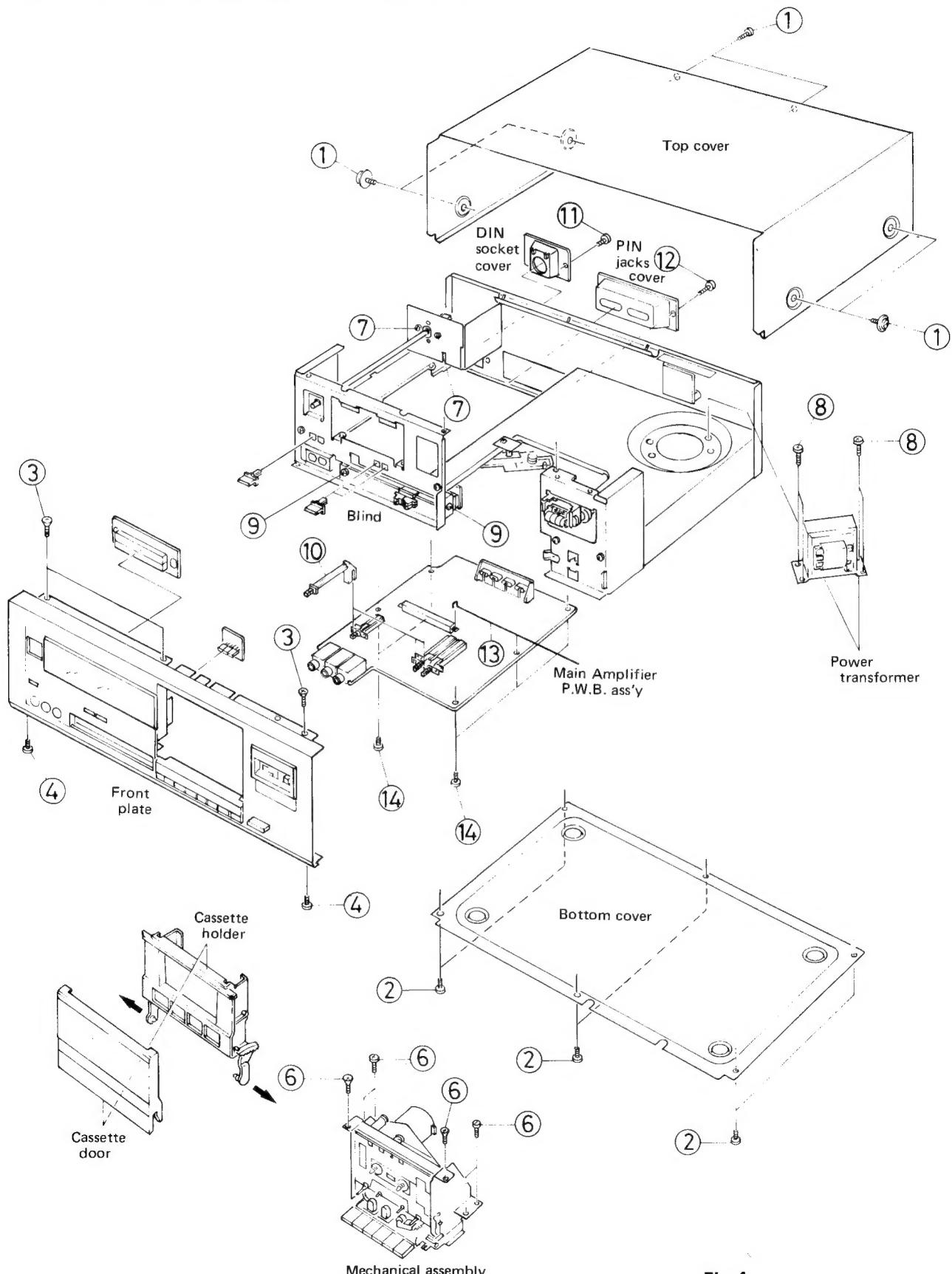


Fig. 4

## Enclosure assembly parts

1. Cassette door  
Push the EJECT button to open the cassette door. Slide off the cassette door upwards to unlock its pawls off both sides.
2. Top cover  
Remove 6 screws ①. (left, right and rear ..... 2 screws on each.)
3. Bottom cover  
Remove 6 screws ②.
4. Front plate assembly  
Remove 5 screws (3 screws ③ on upper side and 2 screws ④ on bottom side).
5. Cassette holder  
1) Remove the cassette holder from the gear of right side.  
2) Pull off the C. holder boss to arrow mark direction.

## Mechanical assembly

Remove 6 screws ⑥ fastening the mechanical ass'y (2 screws on the front bracket, and 4 screws on the chassis.)

## Electrical parts

When removing wire clamp (QHX2075-001), cut off it and when clamping wires, use new parts.

1. Power switch  
Remove 2 screws ⑦ fastening the power switch.
2. Power transformer  
Remove ④ screws ⑧ fastening the power transformer.
3. Slide knobs (Recording level control)  
Remove 2 screws ⑨ fastening the blind.
4. Main amplifier P.W. board ass'y  
1) Pull off 3 knob holders ⑩ of tape select switches and NR system switch.  
2) Remove a screw ⑪ fastening DIN socket cover.  
3) Remove a screw ⑫ fastening PIN jacks cover.  
4) Remove the recording switch wire ⑬.  
5) Remove 5 screws ⑭ fastening the main amplifier P.W. board.  
6) Slide down the rear side of main amp. P.W. board and pull off it to rear side.

# Safety Precautions

### △ Safety mark

Safety is very important with this unit. When replacing the parts marked △, be sure to use only those designated parts. The designated resistors, diodes, transistors become hot in use. When replacing, be sure to secure them with a distance of more than 5 mm from the circuit board. In addition, they are banded together to avoid touching other wiring, recheck this point as well after repair.

The wiring of the primary side should be wound more than one and half times, then soldered.

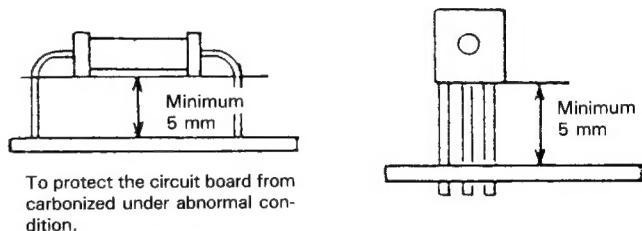


Fig. 5

# Removal of the Mechanical Parts

Refer to mechanical component parts on page 16.

### Remove in the following sequence

1. Pinch roller ass'y ① (Fig. 6)  
Remove an E ring ② with a pinch roller spring ③.
2. Supply reel disk and take up reel disk (Fig. 6)  
(1) Remove 2 reel stopper ④ ⑤.  
(2) When removing the take up reel, remove the counter belt ⑥.  
(When reassembly the reel disk, the stopper use a new parts — it cannot use again — )
3. Tape counter (Fig. 6)  
Remove the counter belt and remove the tape counter pressure position by minus driver etc.
4. Buttons case unit ⑦ (Fig. 6)  
Remove 2 screws ⑧.

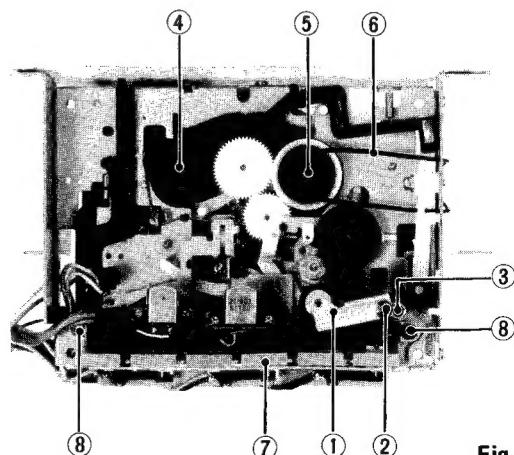


Fig. 6

5. REC/PB head (Fig. 7)  
Remove the buttons case and 2 screws ⑨, and then unsolder REC/PB head P.W. board.
6. Erase head (Fig. 7)  
Remove 2 screws ⑫ and unsolder E head P.W. board.
7. Motor (Fig. 8)  
To remove the FM bracket ⑩, remove 4 screws ⑪. Remove the capstan belt, remove 3 screws fixing the motor.
8. Flywheel ass'y (Fig. 8, 9)  
Remove the FL bracket and the capstan belt. Remove 3 washers ⑯ ⑯ ⑰.  
(Be careful not to stain the belt)
9. Main base ass'y ⑯ and disk base unit ⑯ (Fig. 9, 10)  
Remove a screw ⑯ fixing the pack spring ⑯  
Remove 2 screws ⑯.

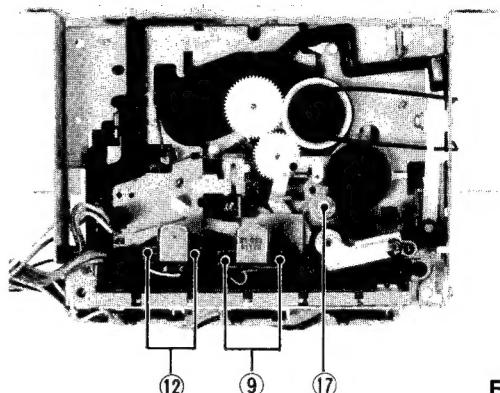


Fig. 7

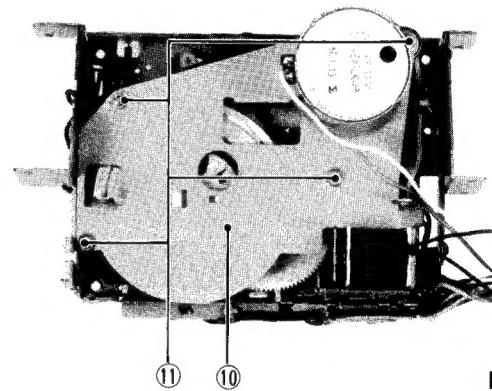


Fig. 8

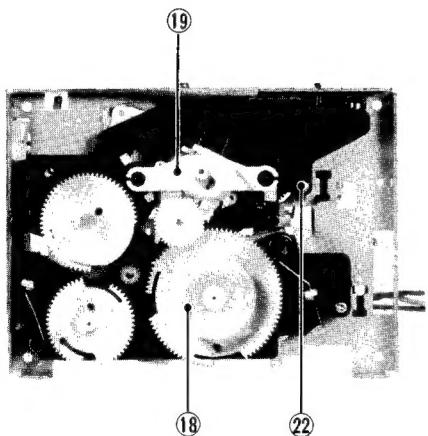


Fig. 10

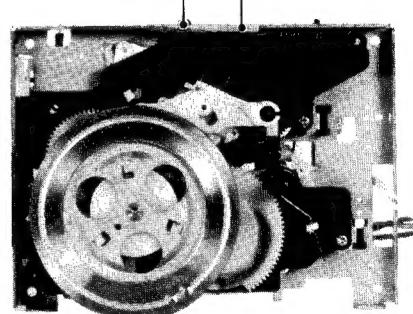


Fig. 9

## Main Adjustments

### [I] Equipment and measuring instruments used for adjustment

#### 1. Electrical adjustment

- 1) Electronic voltmeter
- 2) Audio frequency oscillator (range: 50—20 kHz and output 0 dB with impedance 600 Ω)
- 3) Attenuator
- 4) Standard tapes for REC/PB
 

Maxell UD — SF tape	}	or equivalent
TDK SA — SA tape		
- 5) Reference tapes for playback (JVC Test Tape)  
VTT-658 (for head azimuth adj.)

VTT-656 (for motor speed, wow flutter adj.)

VTT-664 (for Reference Level 1 kHz)

VTT-675N (for playback frequency response)

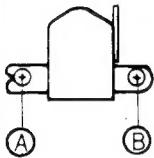
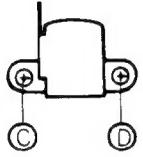
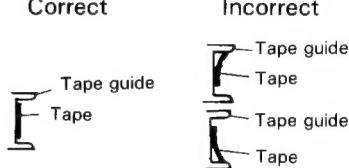
6) Resistor 600 Ω (for attenuator matching)

#### 2. Mechanical adjustment

- 1) Torque testing cassette gauge, CTG-N.
- 2) Blank tape (C-120) for tape running checker.

## [II] Mechanical adjustment

(Adjust the mechanism or confirm that it is in normal operating condition prior to the adjustment of the electrical circuit.)

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting record/play-back head position	<p>1. Connect an electronic voltmeter to the LINE OUT terminals.</p> <p>2. Play back the VTT-658 test tape.</p> <p>3. Adjust the head angle with the screw (A) until the reading of the electronic voltmeter becomes maximum for both channels.</p> <p>4. After adjusting, set the screw with screw bond.</p> 	Screw (A)	Maximum	<p>If the head is worn, disconnected or exceedingly magnetized so as not to provide the necessary characteristics, replace it with a new one.</p> <p>After replacement, the head position adjustment as well as the playback level adjustment, the bias current adjustment and the recording level adjustment are all necessary.</p> <p>If the output difference between the left and right channels exceeds 3–4 dB, the head is defective. Replace it with a new one.</p>
Adjustment erase head height	<p>1. Turn the adjusting screw for aligning the erase head until it stops. Then, turn the screw in the reverse direction by 180° (a 1/2 revolution).</p> <p>2. Employ a special cassette (C-120) from which parts of the casing, where the erase head, record/playback head and capstan engage, has been cut away. Perform tape transport with the cassette tape. Adjust the screw (C) until the tape runs in the center of the erase head tape guide.</p> 	Screw (C)		<p>Be sure to perform this adjustment after replacing the erase head.</p> <p>Correct      Incorrect</p> 
Adjusting motor speed	Connect a speed meter (an electronic counter) to the LINE OUT terminals. Play back the VTT-656 test tape. Adjust the semi-fixed resistor in the motor until the reading of the speed meter is 3000 Hz.	Semi-fixed resistor in the motor	3000 Hz	If the speed meter functions as a wow and flutter meter, also, connect the deck to the INPUT terminals of the meter.
Checking play-back torque	Employ a torque testing cassette tape for the checking, or remove the cassette cover and use a torque gauge.		40–70 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		More than 80 gr-cm	<p>If the standard torque is not obtained, perform the following.</p> <ol style="list-style-type: none"> <li>1. Clean the capstan belt, the idler circumference, the motor pulley, the take-up reel disc circumference, the flywheel circumference, etc.</li> <li>2. Replace the belt and idler.</li> </ol>
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		More than 80 gr-cm	If the standard torque is not obtained, clean the capstan belt, idler, motor pulley, flywheel circumference, rewinding idler circumference, left reel disc circumference, etc.
Checking wow and flutter	Connect a wow and flutter meter to LINE OUT terminals. Play back the VTT-656 test tape. Check to see if the reading of the meter is within 0.15% (CCIR WTD).			If the reading becomes moving value even if conforming to the standard, a re-claim may be raised. Repairs are necessary.

### [III] Electrical adjustments location

#### Main Amp. P.W. Board (parts ass'y side view)

(Tuning in the direction of the arrow increases the level.)

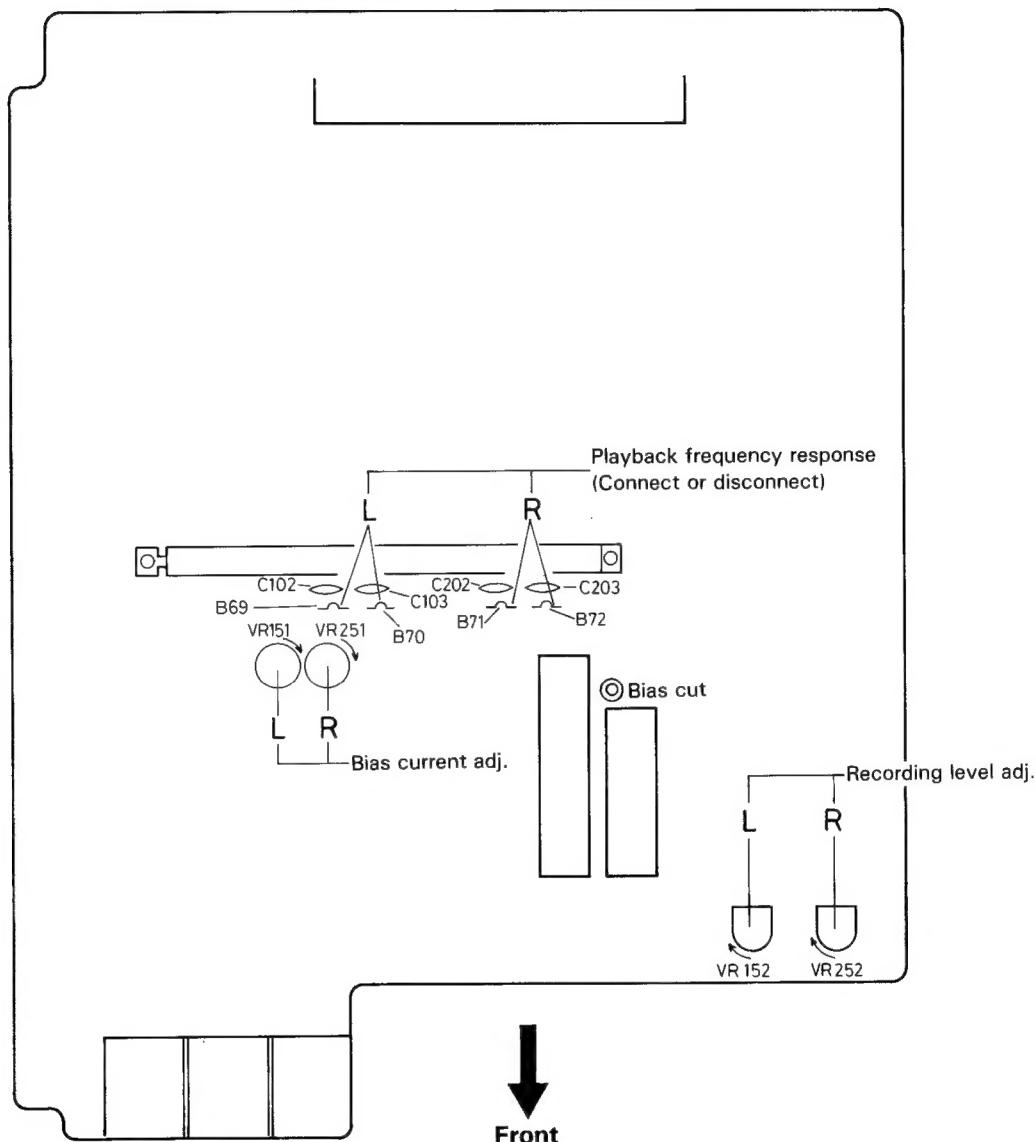


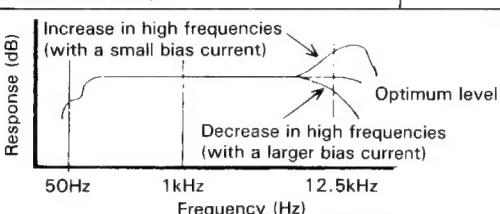
Fig. 11

### [IV] Electrical circuit adjustment procedure

In the steps marked by an asterisk (\*), adjustment should be performed, however, only checking is sufficient with steps other than those.

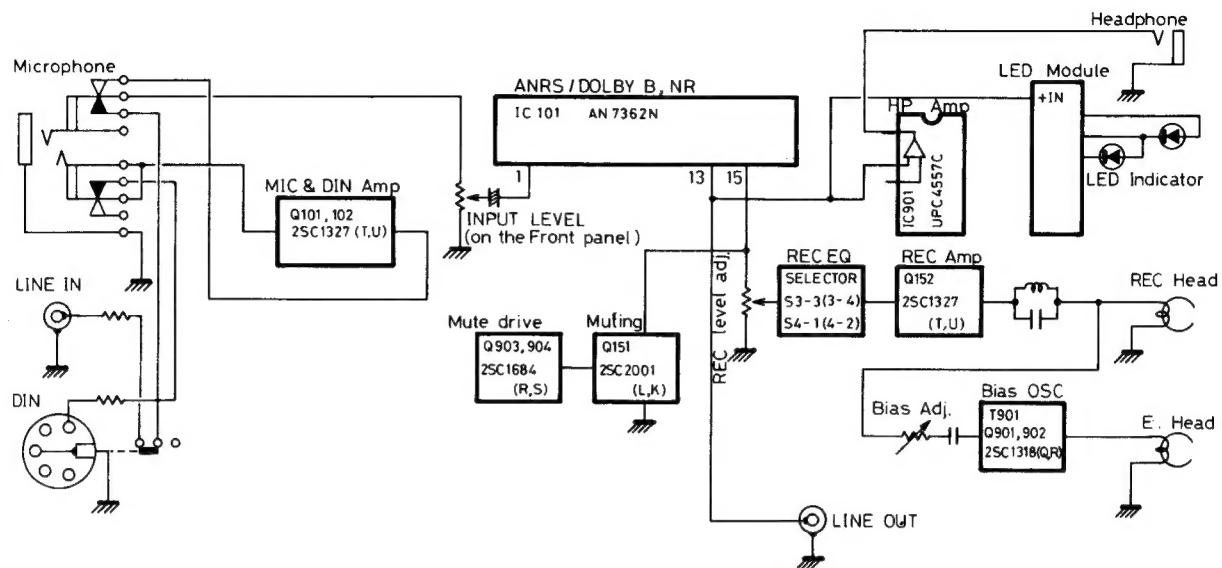
Adjustment should be performed in the order of steps 1, 2, 3,..... Perform this adjustment with the NR SYSTEM switch set to OFF.

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
1 *	Playback frequency response	Play back test tape VTT-675N (1 kHz, 10 kHz) for following adjustment. 1. Connect/Disconnect C102 or C103 so that 10 kHz signal and 1 kHz signal gains become flat response.	C102,202 C103,203	Reference frequency: 1 kHz 0±2 dB at 10 kHz	NR SYSTEM: OFF TAPE SELECT: SF/NORM

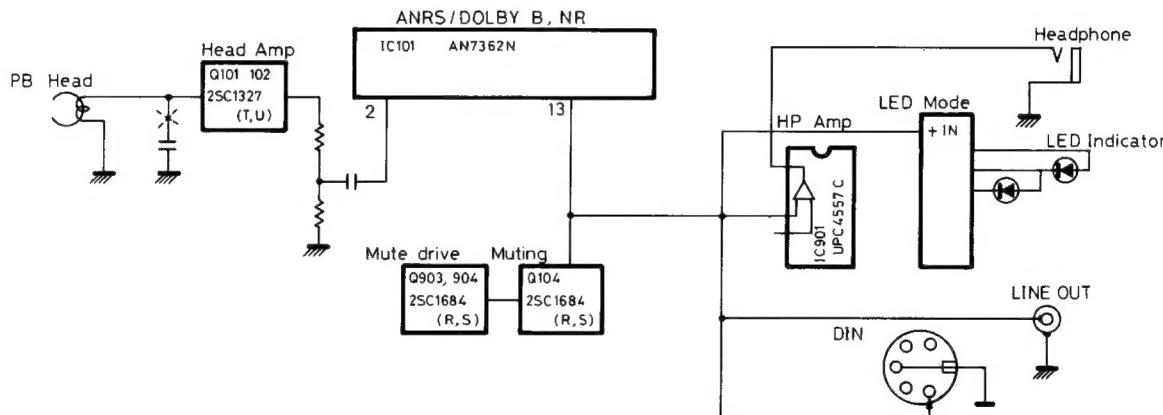
Step	Item	Adjustment	Adjusting point	Standard value	Remarks
2	Checking record/ playback frequency response	Record 1 kHz, 50 Hz and 12.5 kHz signals at an input level of 0 dB to -20 dB. Play back the tape. Check to see that the 50 Hz and 12.5 kHz signal output deviations fall within the standard range, using the 1 kHz signal output as a reference.	For S/F NORM tape; VR151 251	Reference frequency; 1 kHz 0±3 dB at 50 Hz 0±3 dB at 12.5 kHz	This checking should be performed for normal tape and for both right and left channels. 1. Bias current adjustment for a cassette deck should generally be performed referring to the record/ playback frequency response. This is because the frequency response of a cassette deck depends more greatly upon the bias current than does that of an open reel deck. 2. If the bias current is not properly adjusted, the record and playback characteristics become as shown left.
					
3	Adjusting recording level	1. Apply a 1 kHz, approx. -10 dB signal to the LINE IN terminals. Adjust the recording level controls until the signal is available at -8 dBs at the LINE OUT terminals. 2. After checking to see if the Peak level indicator become 0, record the signal applied to both left and right channels using normal tape. 3. Play back the recording part. Perform the recording signal adjustment with VR152 and VR252 so that the peak level indicator becomes 0.	VR152 252	0 dB	The level difference between left and right channels for SF/NORM tape and chrome tape should be less than 1 dB. Perform the adjustment using a normal tape, level difference between recording and playback for SA/CrO <sub>2</sub> and metal tapes, should be less than 1.5 dB, and that between left and right channels should also be less than 1 dB.
4	Checking record/ playback distortion	1. Record a 1 kHz, -8 dBs signal to LINE IN terminals and perform recording with the peak level indicator become to 0. 2. Play back the recorded part. Check the output with a distortion meter to see if the value conforms to the standard value.		SF/NORM tape; Less than 2.5% SA/CrO <sub>2</sub> tape; Less than 3% Metal tape; Less than 2%	Be sure to perform this adjustment following bias current and recording level adjustment.
5	Checking signal to noise ratio in recording/play-back	1. Record a 1 kHz, 0 dB signal. Stop the input by disconnecting from the terminal to perform nonsignal recording. 2. Play back the recorded part. Measure the 0 dB recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value.		SF/NORM, SA/CrO <sub>2</sub> and Metal tapes; More than 42 dB	Apply an output (-72 dBs) to the MIC terminals with the recording level controls set to maximum so that the peak level indicator become 0.
6	Checking erasing coefficient	1. Apply a 1 kHz signal to the LINE IN terminals. Adjust the recording level controls until the peak level indicator become 0. 2. Perform recording with the signal enhanced by 20 dB. 3. Erase a part of the recording. 4. Measure the output difference between the erased part and nonerased part to compare with an electronic voltmeter.		More than 65 dB	For the measuring, connect a band pass filter between the deck and the electronic voltmeter.
7	Check Auto stop	Hold less than 1±0.5 mm gap to the magnet from the hall IC.			

# Block Diagram

## Recording system



## Playback System



## Power Supply Circuit

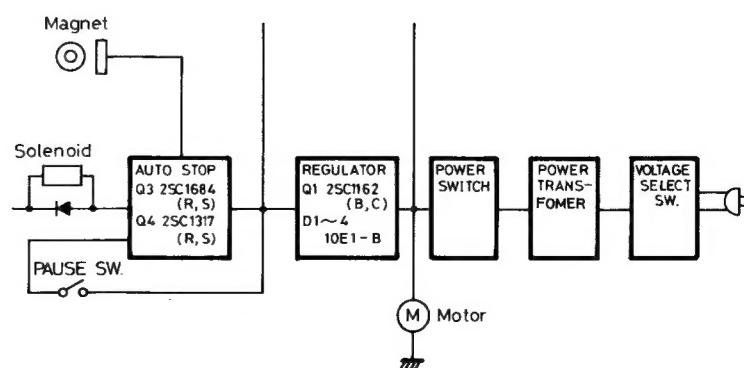


Fig. 12

## Wiring Connections

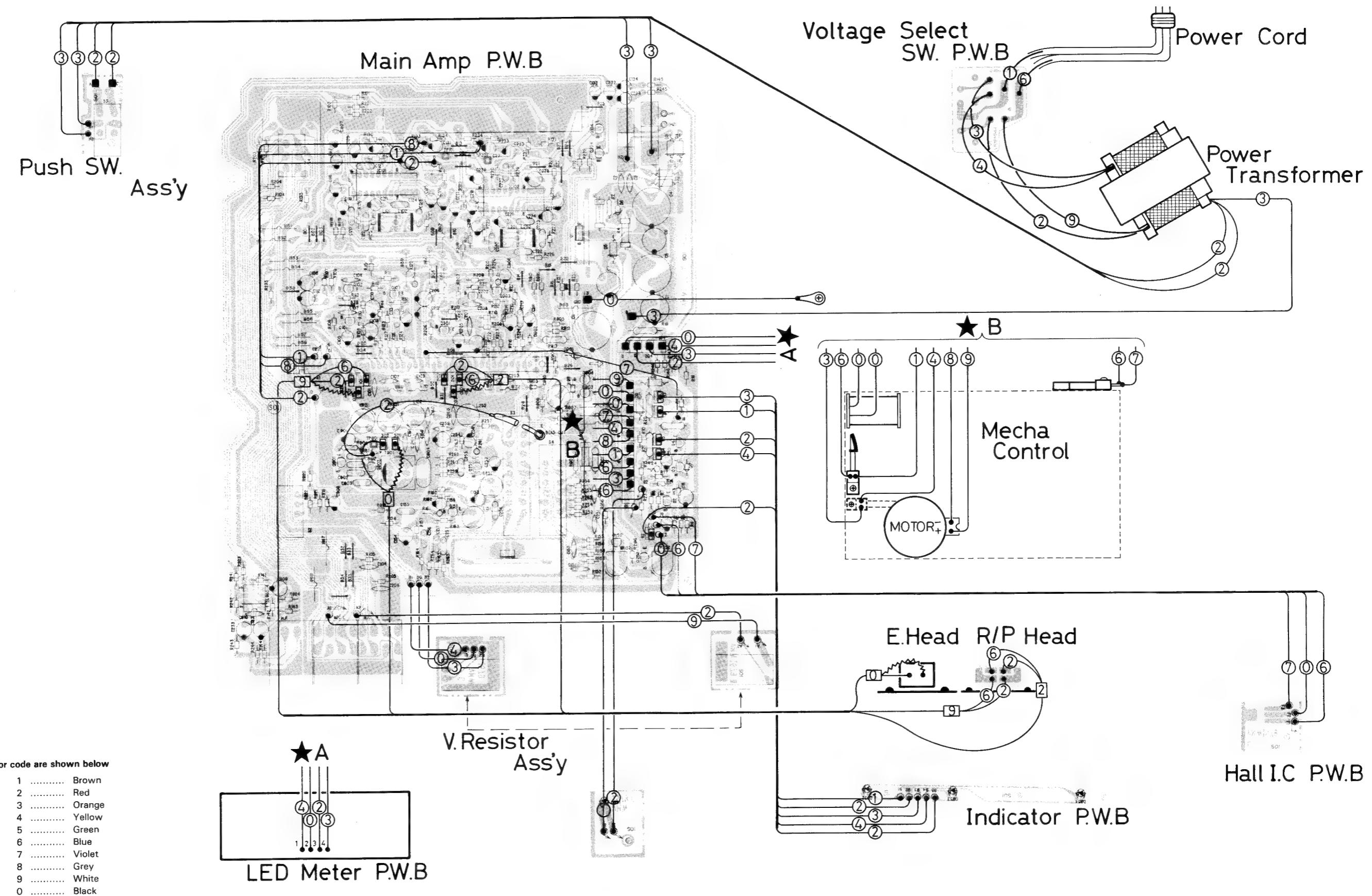
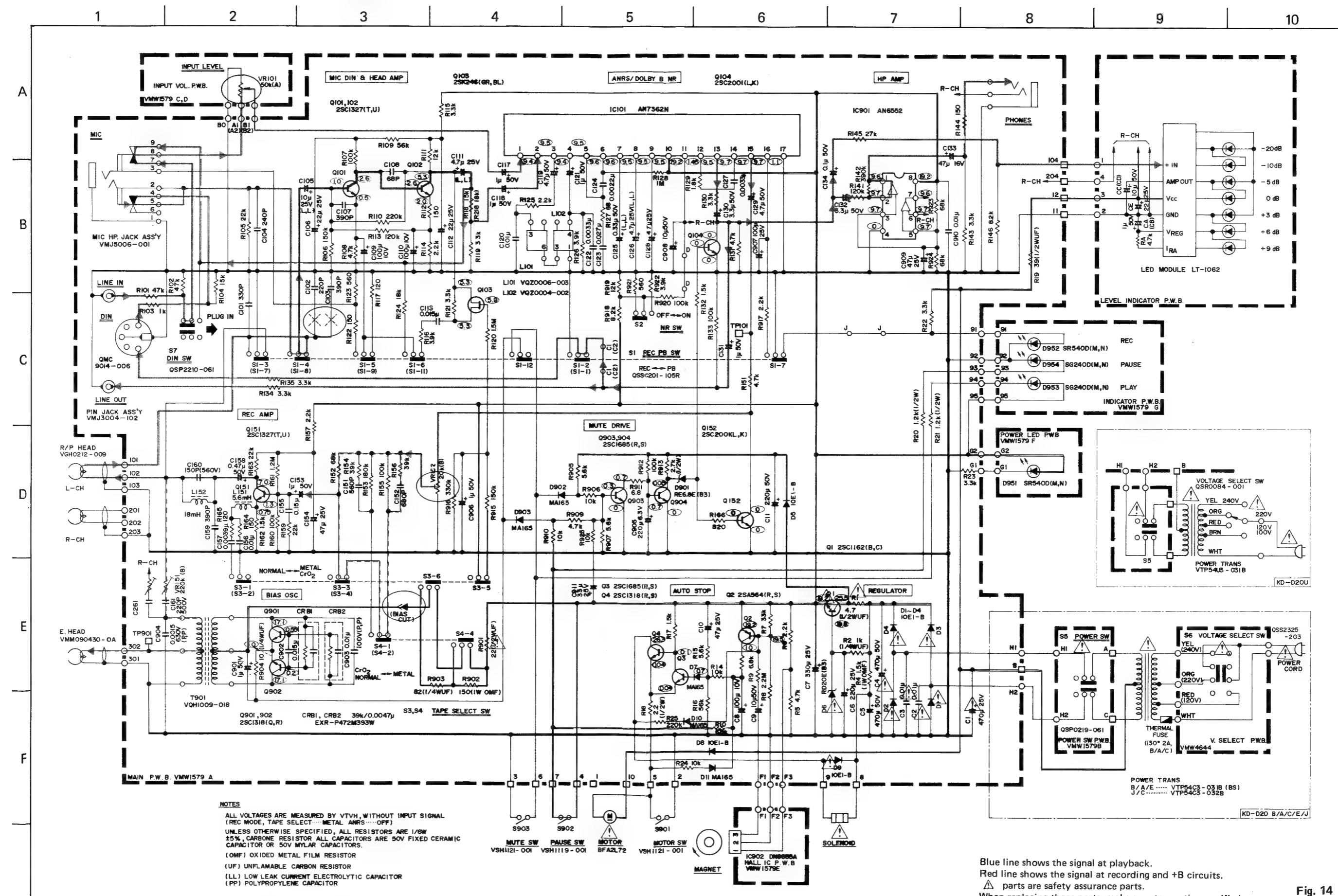


Fig. 13

## Standard Schematic Diagram of KD-D20



# P.W. Board Parts

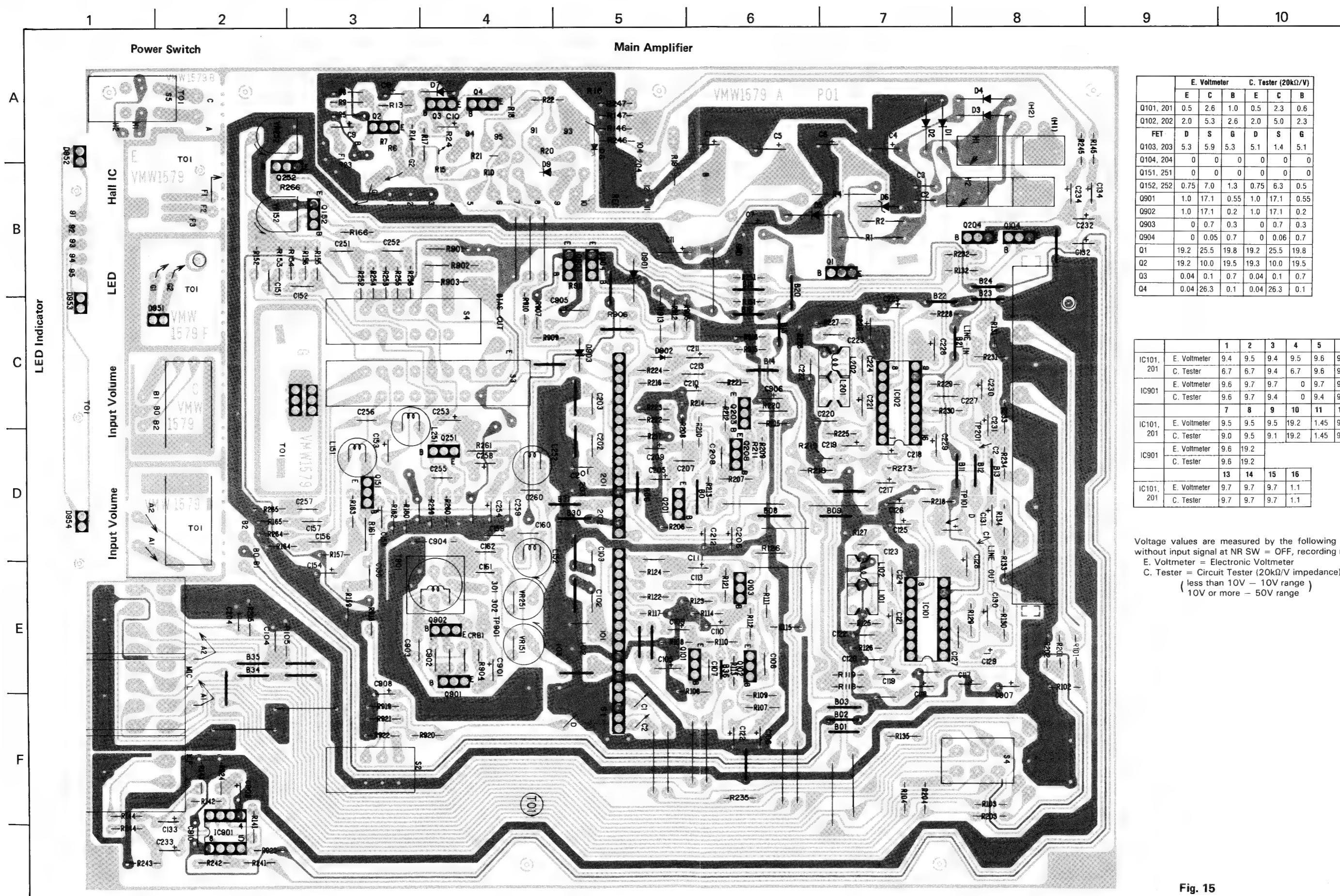


Fig. 15

## Main P.W. Board Parts List

⚠ parts are safety assurance parts.  
When replacing those parts, make sure to use the specified one.

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
R101,201,156 256,102,202		VMW1579-***A QRD161J-473	P.W. Board C. Resistor	47 kΩ 1/6 W 1 kΩ " 2 (KD-D20B/E)	6 2 2
R103,203		" -102	"	15 kΩ " 2 (KD-D20B/E)	7
R104,204		" -153	"	22 kΩ " 11	11
R105,205,159 259,163,263 12		" -223	"	100 kΩ "	
R107,207,133 233,155,255 160,260,5, 912,920		" -104	"		
R108,208,131 231,151,251 909		" -472	"	4.7 kΩ "	7
R109,209,16 R110,210,25		" -562 " -224	"	56 kΩ " 3 220 kΩ " 3	3 3
R111,211,919		" -123	"	12 kΩ " 3	3
R112,212,144 122,222,244 164,264		" -151	"	150 Ω "	8
R113,213,14 241		" -124	"	120 kΩ "	4
R114,214,157 257,917,6		" -222	"	2.2 kΩ "	6
R115,215,121 221,130,230 134,234,143 243,22		" -332	"	3.3 kΩ "	11
R116,216,126 226,922		" -392	"	3.9 kΩ "	5
R117,217,165 265		" -121	"	120 Ω "	4
R118		" -153	"	150 kΩ "	1
R120,220		QRD143J-155S	"	1.5 MΩ 1/4 W	2
R125,225		QRD161J-222	"	2.2 kΩ 1/6 W	2
R127,227		" -680	"	68 Ω "	2
R128,228		" -105	"	1 MΩ "	2
R129,229		" -182	"	1.8 kΩ "	2
R132,232,7 162,262		" -152	"	1.5 kΩ "	5
R135,235		" -332	"	3.3 kΩ "	2
R142,242		" -394	"	(KD-D20B/E)	
R145,245		" -273	"	390 kΩ "	2
R152,252,10 923,924		" -683	"	27 kΩ "	2
R153,253		" -184	"	68 kΩ "	5
R161,261		QRD143J-125S	"	180 kΩ "	2
R166,266		QRD161J-821	"	1.2 MΩ 1/4 W	2
R901	⚠	QRD129J-220	Fail Safety Resistor	82 Ω 1/4 W 10 Ω "	1 1
R902		QRG019J-151	OMF Resistor	5.6 kΩ 1/6 W	1
R903		QRD149J-820S	Fail Safety Resistor	10 kΩ 1/2 W	6
R904		" -100S	"		
R15,905,907		QRD161J-562	C. Resistor	6.8 Ω "	1
R13,14,906,910 24,925		" -103	"	2.7 kΩ 1/2 W	1
R911		" -6R8	"	150 kΩ 1/6 W	3
R913		QRD121J-272	"		
R915,106,206		QRD161J-154	"		

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
R918,146,246		QRD161J-822	C. Resistor	8.2 kΩ 1/6 W	3
R921,123,223		" -561	"	560 Ω "	3
R1	⚠	QRD129J-4R7	Fail Safety Resistor	4.7 Ω 1/2 W	1
R2	⚠	QRD149J-102S	"	1 kΩ 1/4 W	1
R20	⚠	QRD121J-122	C. Resistor	1.2 kΩ 1/2 W	1
R7,119,219		QRD161J-333	"	33 kΩ 1/6 W	3
R8		QRD143J-225S	"	2.2 MΩ 1/4 W	1
R9		QRD161J-682	"	6.8 kΩ 1/6 W	1
R18		QRD121J-2R2	"	2.2 Ω 1/2 W	1
R19		QRD129J-390	Fail Safety Resistor	39 Ω 1/2 W	1
R124,224,218		QRD161J-183	C. Resistor	18 kΩ 1/6 W	3
R154,254		" -393	"	39 kΩ "	2
R4		QRG019J-152	"	1.5 kΩ 1 W	1
R916		QRD161J-334	"	330 kΩ 1/6 W	1
R21		QRD121J-122	"	1.2 kΩ 1/2 W	1
C101,201		QCS11HJ-331	C. Capacitor	330 pF 50 V	2
C102,202		" -221	"	220 pF "	2
C103,203		" -391	"	390 pF "	2
C104,204		" -241	"	240 pF "	2
C105,205,9,908		QEB41EM-106	E. Capacitor (Low Leak)	10 μF 25 V	4
C106,206,133 233,154,254 909,10		QET41ER-476	"	47 μF "	8
C107,207,159 259		QCS11HJ-391	C. Capacitor	390 pF 50 V	4
C108,208		QCS11HJ-680	"	68 pF "	2
C109,209,907,8		QET41AR-107	E. Capacitor	100 μF 10 V	4
C111,211,119 219,126,226 129,229		QEB41EM-475	E. Capacitor (Low Leak)	4.5 μF 25 V	8
C112,212		QET41ER-226	E. Capacitor	22 μF 25 V	1
C113,213,902		QFM11HJ-153	M. Capacitor	0.015 μF 50 V	3
C117,217,118 218,120,220		QET41HR-105	E. Capacitor	1 μF "	12
C131,231,153 253,901,906		QFM11HJ-103	M. Capacitor	0.01 μF "	5
C120,220,156 256,3		QFM41HJ-392	"	0.0039 μF "	2
C157,257		QFM11HJ-273		0.027 μF "	2
C123,223		QFM11HJ-222		0.0022 μF "	2
C124,224		QEB41EM-335	E. Capacitor	3.3 μF 25 V	4
C130,230,132 232		QFM11HJ-332	M. Capacitor	0.0033 μF 50 V	4
C127,227,122 222		QET41ER-476	E. Capacitor	47 μF 16 V	2
C128,128		QET41HR-104N	"	0.1 μF 50 V	2
C151,251		QCS11HJ-561	C. Capacitor	560 pF "	2
C152,252		QCS11HJ-681	"	680 pF "	2
C155,255		QFM41HJ-154	M. Capacitor	0.15 μF "	2
C160,260		QCS12HJ-151	C. Capacitor	150 pF 500 V	2
C161,261		QCY12HK-221	"	220 pF "	2
C903		QFP82AJ-103	P.P. Capacitor	0.01 μF 100 V	1
C904		QFP82XJ-152	"	0.0015 μF "	1
C905		QET41AR-227	E. Capacitor	220 μF 10 V	1
C1,5		QET41HR-477N	"	470 μF 50 V	1
C2,3		QCF11HP-103	C. Capacitor	0.01 μF 50 V	2
C4		QET41HR-477N	E. Capacitor	470 μF 50 V	1
C6		QET41ER-277N	"	270 μF 25 V	1
C7		QET41ER-337N	"	330 μF "	1

## Other P.W. Board Parts

Ref. No.	⚠	Parts No.	Parts Name	Remarks		Q'ty
C11		QET41HR-227N	E. Capacitor	220 $\mu$ F	50 V	1
C911		QET41ER-336N	"	33 $\mu$ F	25 V	1
VR101,201		QVP8A0B-024	V. Resistor	20 k $\Omega$		2
VR151,251		QVP4A0B-224	"	220 k $\Omega$		2
L101,201		VQZ0006-003	Filter Ass'y			2
L102,202		VQZ0004-002	"			2
L151,251		VQP0001-562	Inductor			2
L152,252		" -183	"			2
T901		VQH1009-018	OSC Coil			1
CRB1,CRB2		EXR-P472M393W	C.R. Block			2
IC101		AN7362N	IC			2
IC901		UPC4557C	"			1
Q101,201,102		2SC1327 (T.U)	Si. Transistor			6
202,151,251						
Q103,203		2SK246 (GR.BL)	FET			2
Q903,904,3		2SC1685 (R.S) PH	Si. Transistor	or 2SC1685 (R.S)		3
Q152,252,104		2SC2001 (L.K)	Si. Transistor			4
204						
Q901,902		2SC1318 (Q.R)	"			2
Q1		2SC1162 (B.C)	"			1
Q2		2SA564(R.S)	"			1
Q4		2SC1318 (R.S)	"			1
D1 ~ 5,8,9	⚠	10E1-B	Si. Diode			7
D6	⚠	RD20E (B3)	Zener Diode			1
D7,902,903		MA165-TA5	Si. Diode			5
10,11						
D901		RD 6.8E (B3)	"			1
S1		QSSC201-105R	Slide Switch			1
S2		QST4102-V01	Push Switch			1
S3,4		QST4242-V01	"			1
S7		QSP2210-061	"	KD-D20B/E		1
		VMJ3004-102	PIN Jack Ass'y			1
		VMJ5006-001	MIC/HP Jack			1
		QMC9014-006	DIN Jack	KD-D20B/E		1
		VKL5002-001	Heat sink			1
		DPSP3008Z	Screw			1
C125,225		QEB41HM-334	E. Capacitor (LL)			2
C158,258		QET61HR-474	E. Capacitor			2

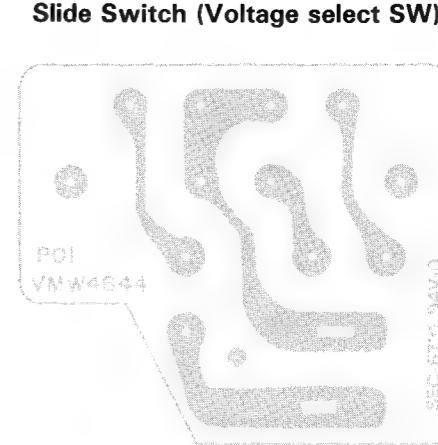
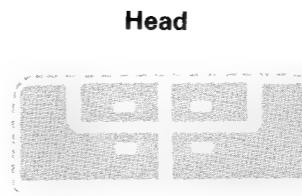


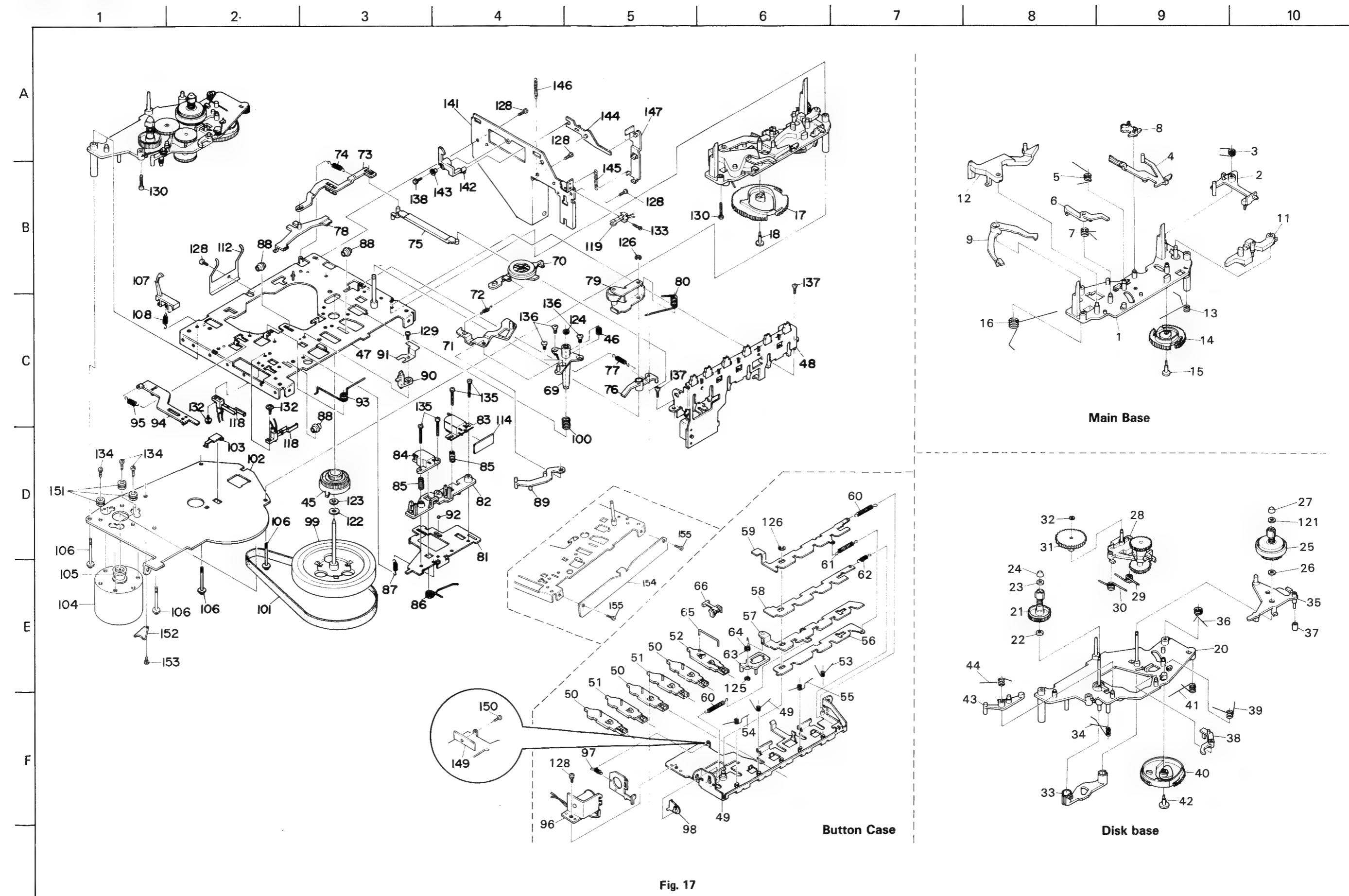
Fig. 16

### Other P.W. Board Parts List

⚠ parts are safety assurance parts.  
When replacing those parts, make sure to use the specified one.

Ref. No.	▲	Parts No.	Parts Name	Remarks	Q'ty
(Power Switch)	▲	VMW1579-***B QSP0219-061	P.W. Board Push Switch		1 1
(Input Volume)		VMW1579-***C VMW1579-***D QVZ6201-001	P.W. Board " V. Resistor		1 1 1
(Hall IC)		VMW1579-***E DN6835A	P.W. Board Hall IC		1 1
(Power Indicator)		VMW1579-***F SR540D (M.N)	P.W. Board L.E.D.		1 1
(Indicator)		VMW1579-***G SR540D (M.N) SG240D (M.N)	P.W. Board L.E.D. L.E.D.		1 1 2
(LED Module)		LT-1062 QRD143J-472 QET41HR-105N QET41ER-226N QET41ER-227N	LED Module C. Resistor E. Capacitor " "	220 µF 25 V	1 2 2 2 2
(Mecha.)		VMW3163-001	P.W. Board		1
(Voltage select SW)		VMW4644-002 QSS2325-203	P.W. Board Slide Switch	KD-D20A/B/C/E/J	1 1

# Mechanical Component Parts



# Enclosure Assembly and Electrical Parts (Except P.W. Board Parts)

1 2 3 4 5 6 7 8 9 10

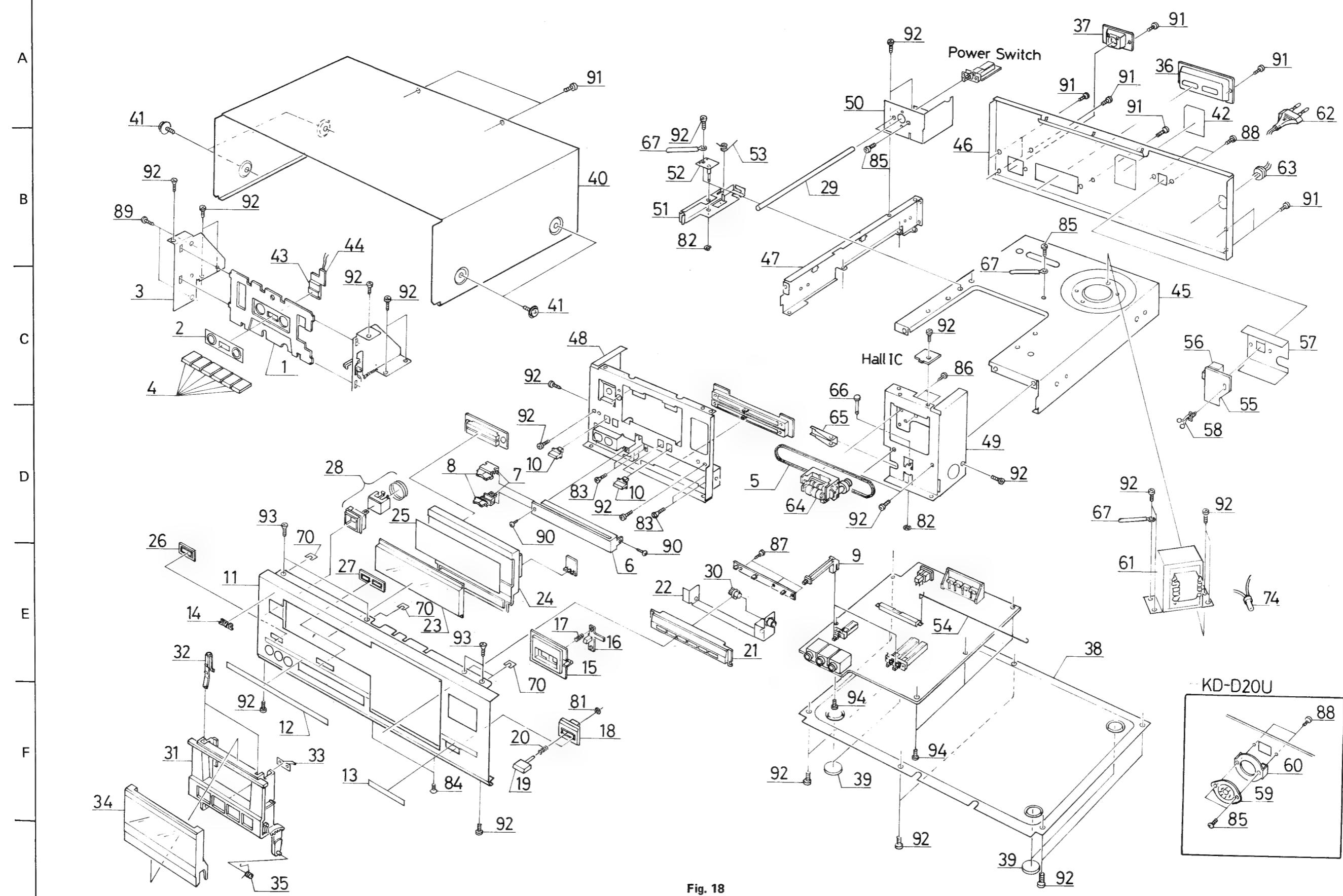


Fig. 18

## Mechanical Component Parts List

△ parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

Ref. No.	△	Parts No.	Parts Name	Remarks	Q'ty
1		VKS2115-001	Main Base		1
2		VKS4400-001	Pause Trigger		1
3		VKW3006-026	Spring		1
4		VKS4401-001	FF Lever		1
5		VKW3006-027	Spring		1
6		VKS4402-001	Play Trigger		1
7		VKW3006-028	Spring		1
8		VKS4403-002	FR Safety		1
9		VKS4404-001	Rew Lever		1
10		VKW3006-029	Spring		1
11		VKS4405-00A	Pause Arm Ass'y		1
12		VKS4483-00A	Play Arm Ass'y		1
13		VKW4333-001	Spring		1
14		VKS3147-001	Pause Cam		1
15		VKS4410-002	Lock Bush		1
16		VKW4334-001	Spring		1
17		VKS4411-002	Play Cam		1
18		VKS4410-002	Lock Bush		1
20		VKS2117-00A	Disk Base Ass'y		1
21		VKR4265-00A	Supply Reel Ass'y		1
22		VKZ4003-003	Felt		1
23		VKR4170-001	Ring		1
24		VKS4131-001	Reel Stopper		1
25		VKR4267-00A	Take-up Reel Ass'y		1
26		VKR4170-001	Ring		1
27		VKS4131-001	Reel Stopper		1
28		VKS3148-00A	FR Base Ass'y		1
29		VKW3006-031	Spring		1
30		VKW3006-032	Spring		1
31		VKR4271-001	Rew. Gear		1
32		VKZ4004-001	Special Washer		1
33		VKS4413-001	FR Stopper		1
34		VKW3006-033	Spring		1
35		VKS4414-00A	FR Arm Ass'y		1
36		VKW3006-034	Spring		1
37		VKH3005-045	Collar	"	1
38		VKS4416-002	FR Trigger		1
39		VKW3006-035	Spring		1
40		VKS4417-001	FR Cam		1
41		VKW3006-036	Spring		1
42		VKS4410-002	Lock Bush	"	1
43		VKS4418-001	Return Lever		1
44		VKW3006-045	Spring		1
45		VKR4272-00A	FW. Gear Ass'y		1
46		VKR4276-001	Roller		1
47		VKL3352-00A	Chassis Base Ass'y		1
49		VKL3354-00A	Button Case Ass'y		3
50		VKS4420-00A	Button Ass'y		2
51		VKS4420-00B	"		1
52		VKS4493-001	Pause Button Ass'y		1
53		VKW4345-002	Spring		1
54		" -001	"		1
55		VKW4326-001	"		2
56		VKL3355-002	Rec Cam		1
57		VKL5125-00B	Main Cam Ass'y		1
58		VKL3357-002	Sub Cam		1
59		VKL3358-001	Switch Cam		1
60		VKW3002-094	Tension Spring		2
61	" -100	"	"	Switch Cam Main Cam Switch Cam ~ Rec. Cam	1

Ref. No.	△	Parts No.	Parts Name	Remarks	Q'ty
62		VKW3002-095	Tension Spring	Sub Cam	1
63		VKS4422-001	Select Arm		1
64		VKW4340-001	Spring		1
65		VKW4327-002	Wire		1
66		VKS4423-001	Wire Stopper		1
69		VKF4115-00A	Capstan Metal Ass'y		1
70		VKS4424-00A	Take-up Idler Ass'y		1
71		VKS4427-001	Pause Arm		1
72		VKW3002-096	Tension Spring	Take-up	1
73		VKS4428-002	Brake Arm (1)		1
74		VKW3002-097	Tension Spring	Brake Arm (1)	1
75		VKS4429-001	Brake Lever		1
76		VKS4430-002	Brake Arm (2)		1
77		VKW3002-097	Tension Spring	Brake Arm (2)	1
78		VKS4431-002	Brake		1
79		VKP4121-00A	Pinch Roller Arm Ass'y		1
80		VKW4356-002	Pinch Roller Spring		1
81		VKL3359-003	Slide Base		1
82		VKS2119-001	Head Mount Base		1
83		VGH0421-009	R/P Head Ass'y		1
84		ZMM090430-0A	E Head Ass'y		1
85		VKW3001-020	Compression Spring	R/P, E. Head	2
86		VKW4342-002	Slide Base Spring		1
87		VKW3002-099	Tension Spring		1
88		VKS4432-002	Roller		3
89		VKS4433-002	Switch Arm		1
90		VKS4434-001	Cassette Guide		1
91		VKY4238-001	Spring Plate		1
92		T41615-004	Stell Ball		1
93		VKW4341-001	Spring	Slide Base	1
94		VKS4435-003	Rec Lever		1
95		VKW3002-011	Tension Spring		1
96	△	VGP0601-013	Solenoid Ass'y		1
97		VKW3002-043	Tension Spring		1
98		VKS4436-001	Rec Arm		1
99		VKF3120-00A	Flywheel Ass'y		1
100		VKW3001-010	Spring	Thrust	1
101		VKB3001-011	Belt	Capstan	1
102		VKL3402-001	F.M. Bracket		1
103		VKS4437-001	Thrust Plate		1
104	△	BFA2L72	D.C. Motor		1
105		VKS4139-002	Motor Pulley		1
106		VKZ4014-001	Special Screw		4
107		VKS4438-002	Rec. Safety Arm		1
108		VKW3002-039	Tension Spring	Rec S. Arm	1
111		VKS4492-00A	Rec. Arm Ass'y		1
112		VKY4239-001	Pack Spring		1
113		VKS4490-001	Select Arm		1
114		VMW3163-001	Printed Wiring Board		1
115		VKW3006-049	Spring		1
116		VKW4374-002	"		1
118		VSH1121-001	Leaf Switch		2
119		VSH1119-001	"		1
121		Q03093-838	Washer		1
122		" -627	"	Thrust	1
123		" -827	"		1
124		" -522	"		1
125		REE1500	E. Ring		2
126		REE2500	"	Oil Cut Select Arm x 1 Rec. Arm Unit x 1 Switch Cam x 1 Pinch Roller Ass'y x 1	2

Ref. No.	△	Parts No.	Parts Name	Remarks	Q'ty
128		HPST2604Z	Screw	Solenoid Ass'y x 1 Pack Spring x 1, Side BKT Ass'y x 3 Stell Ball	5
129		HPST2606Z	"		1
130		HPST2612Z	"	Main Base x 1 Disk Base x 1	2
132		SBSB2006Z	"	Leaf Switch	2
133		SDSP2006Z	"	"	1
134		VKZ4109-001	Motor Screw	D.C. Motor	3
135		SPSX2010N	Screw	R/P Head x 2 E. Head x 2	4
136		SSST2604Z	"	Capstan Metal Ass'y	3
137		SSST2605Z	"	Button Case x 2	2
138		SPSP2612Z	"	Side Bracket Ass'y	1
141		VKL3399-001	Side Bracket		1
142		VKS4488-001	Lock Arm		1
143		VKH3001-054	Flange Collar		1
144		VKS4487-001	Connecting Lever		1
145		VKW3002-063	Tension Spring	E. Button	1
146		" -034	"	E. Lever	1
147		VKS4480-001	Eject Button		1
148		VKH3000-053	Collar		1
149		VKL5256-002	Bracket		1
150		SPSK1425M	Screw		1
151		VKZ4130-001	Cushion Rubber		3
152		TFB345469-01	Rubber Stopper		1
153		HPST2604Z	Screw		1
154		VKL5295-001	Stopper		1
155		SSSP3005Z	Screw		2

**Enclosure Assembly and Electrical Parts List**  
**(Except P.W. Board Parts)**

△ parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

Ref. No.	△	Parts No.	Parts Name	Remarks	Q'ty
11~15 ( 18,21 ) 23~28		ZCKDD20Y-CBF	Front Plate Ass'y		1 set
1 2 3 4		VJD3340-001 VJD4596-001 VKL5257-001 VXP4240-001	Mecha. Cover Disk Plate Mecha. Bracket (L) Push Button	Mecha.	1 1 1 6
5 6 7 8 9		VKB3000-053 VJD3339-001 VKS3159-001 VXS4072-001 VKS3160-002	Belt Blind Volume Lever Slide Knob Remote Bar		1 1 2 2 3
10 11 12 13 14		VXP4234-001 VJC1236-001 VJD4593-001 VJD4594-001 E69212-001	Push Button Front Plate Scale Plate Plate JVC Mark		3 1 1 1 1
15 16 17 18 19		VJD3342-001 VXP4241-001 VKW3001-058 VJD4590-001 VXP4239-001	Counter Escutcheon Reset Knob Compression Spring Eject Escutcheon Push Button	Eject	1 1 1 1 1
20 21 22 23 24		VKW3001-063 VJD3341-001 VKL5262-00A VJK3195-001 VJD2189-001	Compression Spring Button Case Door BKT. Ass'y Finder LED Escutcheon		1 1 1 1 1
25 26 27 28 29		VJD4595-001 VJD4591-001 VJD4592-001 E69189-002 VKS4003-011	LED Plate Button Escutcheon " Push Knob Ass'y Pipe	NR Tape	1 1 1 1 1
30 31 32 33 34		VYH4460-001 VJT2073-001 VKS4481-001 VKY4252-002 VJT3089-001	Gear Cassette Door Cassette Spring " Cassette Lid		1 1 2 1 1
35 36 37 38 39		VKW4365-001 VJD3311-001 VJD3360-001 VJC2075-001 VJF4003-002	Holder Spring Jack Escutcheon DIN Jack Escutcheon Bottom Cover Foot	KD-D20B/E KD-D20B/E	1 1 1 1 4
40 41 42		VJC2076-001 VKZ3001-002 VYN2099-002PA " -001PA " -003PA " -004PA " -005PA " -006PA	Top Cover Special Screw Name Plate " " " " " " Amp. Chassis	KD-D20A KD-D20B KD-D20C, -003PK KD-D20E KD-D20J KD-D20U	1 4 1 1 1 1 1
45 46		VKL1217-001 VJC2074-001 " -004	Rear Panel "	KD-D20B/E KD-D20A/C/J/U	1 1 1
47 48 49 50 51		VKL3383-001 VKL2160-001 VKL3384-001 VKL3387-001 VKL3395-001	Angle Front Bracket (L) " (R) Power Bracket Rec. Arm		1 1 1 1 1
52 53 54 55	△	VKL5260-00B VKW4363-002 VKW4364-001 VMW4644-001	Rec. Bracket Ass'y Spring Rec. Wire P.W. Board	Voltage Select KD-D20A/B/C/E/J	1 1 1 1

Ref. No.	▲	Parts No.	Parts Name	Remarks	Q'ty
56	▲	QSS2325-203BS	Slide Switch	KD-D20B	1
	▲	" -203	"	KD-D20A/C/E/J	1
57	▲	VMA4151-001	Insulator	KD-D20A/B/C/E/J	1
58		VKS4354-001	Wire Clamp	"	1
59	▲	QSR0084-001	V. Select Switch	KD-D20U	1
60		VKL4275-001	Bracket	"	1
61	▲	VTP54C3-031BBS	Power Transformer	KD-D20B	1
		" -031B	"	KD-D20A/E	1
		" -032B	"	KD-D20C/J	1
62	▲	VTP54U3-031B	Power Cord	KD-D20U	1
	▲	QMP9017-008BS	"	KD-D20B	1
	▲	QMP2560-200	"	KD-D20A	1
	▲	QMP1200-200	"	KD-D20C/J	1
	▲	QMP3900-200	"	KD-D20E	1
	▲	QMP7600-200	"	KD-D20U	1
63	▲	QHS3876-162BS	Strain Relief	KD-D20B	1
	▲	" -162	"	KD-D20A/C/E/J/U	1
64		VKC5160-001T	Tape Counter		1
65		VKL5258-001	Eject Lever		1
66		VKH4387-001	Shaft		1
67		VKZ4001-011	Wire Holder		2
70		T47818-002	Spacer		4
74		TAW000504-01	Counter	KD-D20U	2
81		REE2500	E Ring	Eject Escutcheon	1
82		REE3000	"	Rec. Bracket x 1 Eject Lever x 1	2
83		LPSP2604Z	Screw	INPUT Vol. P.W.B.	4
84		LPSP2606Z	"	Door Bracket Ass'y	2
85		LPSP3006Z	"	Power Switch P.W.B. x 2	4
86		SDSF2606Z	"	Wire Holder x 2 Tape Counter	2
87		SDSF2608Z	"	P.W.B.	3
88		SDSP3006R	"	V. Select Switch	2
89		SDST2604Z	"	Mecha. Bracket	2
90		SDST3006Z	"	Blind	2
91		SDST3006R	"	Jack Escutcheon x 1 DIN Jack Escutcheon x 1	10
				Rear Panel x 3 Angle x 2 Power Bracket x 1 Top Cover x 2	
92		SDST3006Z	"	Mecha. x 4 Hall IC x 1 F. Plate x 2 Bottom Cover x 6 F. Bracket (L) x 3 F. Bracket (R) x 3 Power Bracket x 1 Rec. Bracket x 1 Power Transformer x 4 P.W.B. x 3	28
93		SSST3006Z	"	Front Plate x 3, Mecha x 2	5
94		SDST3006V	Screw	Main P.W.B.	5

# Packing

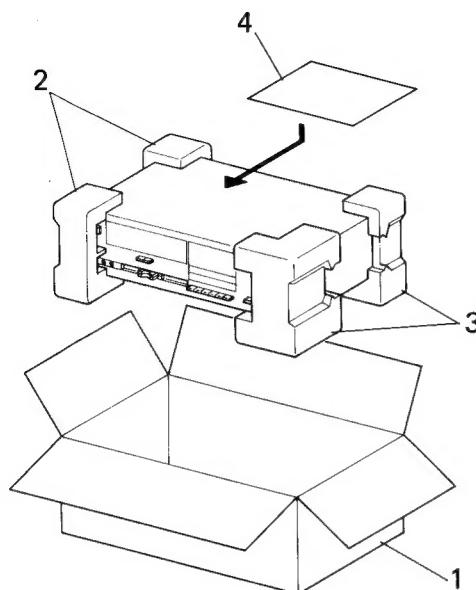


Fig. 19

## Positions of controls and switch knobs at renew packing

Power switch	: OFF
Tape select SWs	: SF/NORM
Rec level controls	: MIN
Counter	: 000
Mecha. operation buttons	: OFF
Eject	: OFF

## Packing Material Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VPD2099-J01	Carton		1
	" -J02	"	KD-D20B	1
	" -J03	"	KD-D20A	1
	" -J04	"	KD-D20C	1
	" -J05	"	KD-D20E	1
	" -J06	"	KD-D20J	1
2	VPH3111-001	Cushion (L)		1
	VPH3112-001	" (R)		1
	Q04141H	Wire Clamp	for Power Cord	1
	TKS000501-08	Sheet	for Unit	1
	VPE4002-005	Poly Bag	for Unit KD-D20B	1
	QPGA060-06005	Envelope	for Unit	1
4	AP4056A-36	Poly Bag	KD-D20A/C/E/J/U	
	VPE4002-004	"	for PIN Cord	1
	AP4056B-077	Envelope	for Inst. Book KD-D20B	1
			for Inst. Book	1
			KD-D20A/C/E/J/U	

# Accessories

△ parts are safety assurance parts.  
When replacing those parts, make sure to use the specified one.

Parts No.	△	Parts Name	Remarks	Q'ty
VMP0002-00B		Pin Cord		2
VNN0094-901		Instruction Book	KD-D20A/C/J/U	1
" -301		"	KD-D20B/E	1
BT20013C		Guarantee Certificate	KD-D20B	1
BT20029B		Warranty Card	KD-D20A	1
BT20025E		"	KD-D20C	1
BVT20047		"	KD-D20U/J	1
TJL000443-01		Seal	KD-D20B	1
VNC5004-001		BEAB Label	KD-D20B	1
TLT052401-01		Mark Sticker	KD-D20B/E	1
		Warning Label	KD-D20A/B/E	1
QZL1002-003BS		"	KD-D20B	1
T44362-001		CSA Marker	KD-D20C	1
E66416-003		Envelope	for Warranty Card	1
BT20046A		Special Relay Card	KD-D20J	1
BT20046		"	KD-D20J	1
			KD-D20U	1
BT20044B		Safety Instruction	KD-D20J	1
TLT000505-01		UL/CSA Caution Label	"	2
E7795-1		EP Mark	KD-D20U	1
VNC5311-101		Caution Card	KD-D20U	1
V04062-001	△	Siemens Plug	"	1
T46328-001		Caution Label	"	1
VND4037-001		F. Mark Label	KD-D20E	1

# JVC

## Supplementary SERVICE MANUAL

**MODEL      KD-A22A/B/C/E/J/U  
KD-A11A/B/C/E/J/U**  
STEREO CASSETTE DECK

This manual is supplementary of KD-A22A/B/C/E/J/U (No. 4191) and KD-A11A/B/C/E/J/U (No. 4192).

### Change of parts.

KD-A22A/B/C/E/J/U service manual (No. 4191)

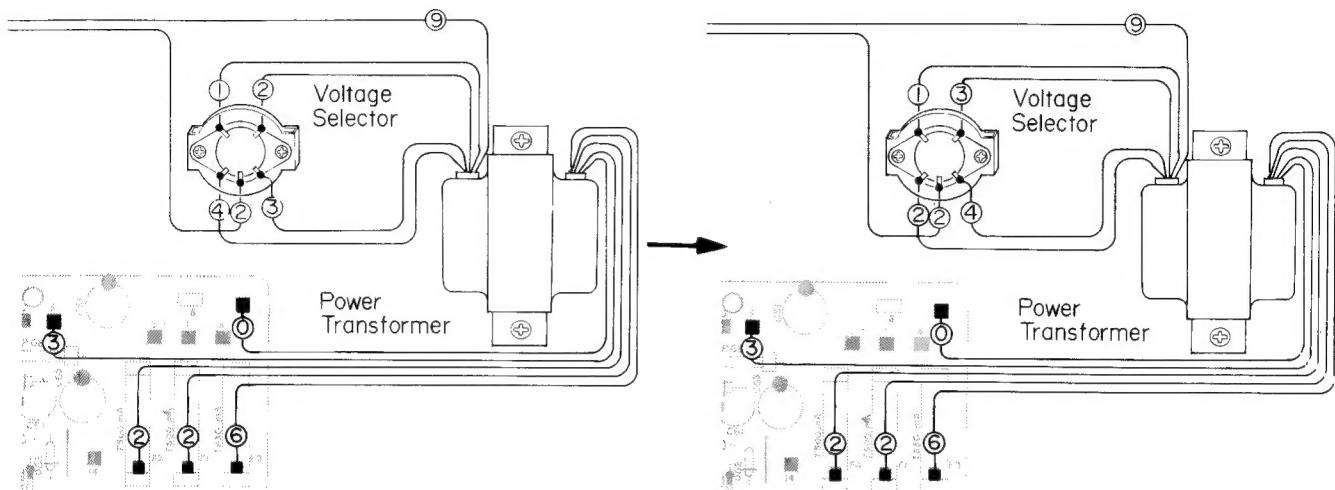
Please take care of the following matters.

- (1) Note of these new parts in your service manual.
- (2) Give an order to us for the parts concerned to keep them as spare.

Page	Ref. No.	Old Parts No.	New Parts No.	Parts Name	
19	64	VTP54T5-031BBS	VTP54C5-031BBS	Power Transformer	(KD-A22B)
		VTP54T5-031B	VTP54C5-031B	"	(KD-A22E)
		VTP54T5-032B	VTP54C5-032B	"	(KD-A22J/C)

Please note this correction of mis-print is important for safety assurance, so that below genuine wiring connection show to be connected when repairing.

**Correction**



KD-A22U Wiring Connection – (page 11, No. 4191)

KD-A11U Wiring Connection – (page 15, No. 4192)

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